



**NRL BAA Announcement  
#55-09-03**

## **FEDERATED, DISTRIBUTED COMPUTING/NETWORK INFRASTRUCTURE**

The Center for Computational Science of the Naval Research Laboratory (NRL) is interested in receiving proposals in emerging scalable leading edge technologies relevant to high performance (HP) distributed supercomputing, wide area networking and visualization, and data collaboration technology for High End Computing (HEC). Research involves work in scaling single-image large memory supercomputer processing for scientific problems undertaken as part of the NRL, ONR and High Performance Computing Modernization Office programs; research is ongoing in the areas of infrastructure virtualization, collaboratory and conferencing environments; streaming multi-gigabit multimedia network technology while providing E2E QoS guarantees; federated, distributed technology for multi-petabyte scale file systems; prototype environments for the design of scalable, object oriented multimedia databases for near-realtime access, archival and retrieval; and stream and compression technology for transmission of progressive motion and/or high resolution imagery.

The research objective is to investigate and develop innovative approaches and techniques that have the potential to create superior revolutionary rather than evolutionary advances in computing, communications, display and information infrastructures and tools. In addition to software and emerging hardware advances, NRL seeks new methodologies for interconnecting heterogeneous systems through high speed network technologies that over time have the potential to scale to terabit flows; all-optical amplified wavelength division networking and optical burst switching technology; HP stream access to remote assets over commercial networks; leading edge flow routing architectures capable of end-to-end streams with QoS guarantees; and information assurance and encryption technologies and tools for the above.

Address White Papers (WP) to Code 5590, or [e-mail](#), telephone (202) 404-7344. Allow one month before requesting confirmation of receipt of WP, if confirmation is desired. Substantive contact should not take place prior to evaluation of a WP by NRL. If necessary, NRL will initiate substantive contact.